

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1 through 27 (Cancelled)

28. (Currently Amended) A method for ~~operating an~~ generating Oxygen producing generator, comprising:

~~filling a vessel with water, wherein the vessel is in fluid communication with a humidifier;~~

~~dissolving in at least a portion of the water a water-soluble powder or liquid at least used as a Oxygen-producing reactant, thereby producing a solution generating Oxygen;~~

~~inserting a heat-absorbing salt into the vessel; and~~

~~directing at least a portion of the Oxygen within the vessel to the humidifier.~~

providing a vessel having walls of varying thickness and a compartment for a chemical reaction;

adding water to the compartment;

dissolving a limiting reactant of water-soluble powder in the compartment after adding the water, wherein the water-soluble powder is selected from the group consisting of sodium percarbonate ($2\text{Na}_2\text{CO}_3 \cdot 3\text{H}_2\text{O}_2$) powder and sodium perborate (NaBHO_3);

dissolving a catalyst in the compartment after dissolving the limiting reactant, wherein the catalyst is selected from the group consisting of an iron compound, iron oxide, a copper compound, and copper oxide;

adding a heat-absorbing compound to the compartment after dissolving the limiting reactant and dissolving the catalyst, wherein the heat-absorbing compound comprises a combination of a manganese compound and sodium-based compound;

producing an oxygen flow from a chemical reaction in the compartment resulting from the dissolving of the limiting reactant and the catalyst, and addition of the heat absorbing compound;

withstanding a increase in pressure in the compartment resulting from the chemical reaction;

controlling the oxygen flow by varying the amount of the limiting reactant;

controlling the oxygen flow by varying the amount of the catalyst;

directing the oxygen flow through a humidifier;

varying the amount of humidity of the oxygen flow in the humidifier;

varying the amount of temperature of the oxygen flow in the humidifier;

generating an aqueous solution of soda ash in the compartment, and

directing the oxygen flow to a usage device through an output line.

29. (Currently Amended) The method of Claim 28, wherein the method further comprises:

~~introducing a catalyst into at least a portion of the solution after the water-soluble powder is dissolved, wherein the catalyst is at least non-toxic, at least not an environmental hazard, at least not an explosive hazard, at least not a fire hazard, and at least having a long shelf-life~~ humidifying the oxygen flow to a relative humidity of about 65 percent.

Claims 30 through 33 (Cancelled)

34. (Currently Amended) ~~An apparatus~~ A kit for generating Oxygen, comprising:

~~a sealed vessel containing a heat absorbing salt having walls of varying thickness and a compartment where a chemical reaction that produces Oxygen takes place,~~

a humidifier,

a fluid transfer member fluidly coupling the compartment and to the humidifier,

an output line coupled to the humidifier,

a usage device coupled to the output line to enable a user to breath the oxygen,

~~an aqueous, Oxygen-producing solution contained in the vessel,~~
a predetermined amount of water,
a predetermined amount of water soluble powder, wherein the water soluble
powder is sodium percarbonate ($2\text{Na}_2\text{CO}_3 \cdot 3\text{H}_2\text{O}_2$) powder or sodium perborate
(NaBHO_3),
a predetermined amount of catalyst, wherein the catalyst is selected from the
group consisting of an iron compound, iron oxide, a copper compound, and copper
oxide, and
a predetermined amount of heat absorbing compound, comprising a combination
of a manganese compound and a sodium-based compound.

35. (Currently Amended) The apparatus of Claim 34, wherein ~~the aqueous, Oxygen producing solution further comprises a reactant dissolved in water, the reactant selected from the group consisting of Sodium Percarbonate ($2\text{Na}_2\text{CO}_3 \cdot 3\text{H}_2\text{O}_2$) or Sodium Perborate (NaBHO_3)~~ the output line is a carrying tube.

36. (Currently Amended) The apparatus of Claim 34, wherein ~~the aqueous, Oxygen producing solution further comprises a catalyst comprising Manganese Dioxide (MnO_2)~~ the humidifier is configured to humidify an oxygen flow to a relative humidity of approximately 65 percent.

Claims 37 through 42 (Cancelled)

43. (New) A method for generating oxygen, the method comprising:
providing a vessel having a compartment for a chemical reaction;
adding a liquid to the compartment wherein the liquid comprises water and a dissolved limiting reactant, wherein the limiting reactant is selected from the group consisting of sodium percarbonate ($2\text{Na}_2\text{CO}_3 \cdot 3\text{H}_2\text{O}_2$) powder and sodium perborate (NaBHO_3);

dissolving a catalyst in the liquid after adding the liquid to the compartment to produce a chemical reaction to generate an oxygen flow, wherein the catalyst is

selected from the group consisting of an iron compound, iron oxide, a copper compound, and copper oxide;

adding a heat absorbing compound to the compartment, wherein the heat absorbing compound is a combination of a manganese compound and sodium-based compound;

sealing the compartment to withstand an internal pressure created by the chemical reaction,

controlling the oxygen flow by varying the amount of the limiting reactant;

controlling the oxygen flow by varying the amount of the catalyst;

directing the oxygen flow through a humidifier;

varying the amount of humidity of the oxygen flow in the humidifier;

varying the amount of temperature of the oxygen flow in the humidifier;

generating an aqueous solution of soda ash in the compartment; and

directing the oxygen flow to a usage device through an output line.

44. (New) A method for generating oxygen, the method comprising:

providing a vessel having a compartment for a chemical reaction;

adding water to the compartment;

simultaneously dissolving a limiting reactant and a catalyst in the water after adding the water to the compartment, wherein the limiting reactant is selected from the group consisting of sodium percarbonate ($2\text{Na}_2\text{CO}_3 \cdot 3\text{H}_2\text{O}_2$) powder and sodium perborate (NaBHO_3) and the catalyst is selected from the group consisting of an iron compound, iron oxide, a copper compound, and copper oxide;

adding a heat absorbing compound to the compartment, wherein the heat absorbing compound is a combination of a manganese compound and sodium-based compound;

sealing the compartment to withstand an internal pressure created by the chemical reaction,

controlling the oxygen flow by varying the amount of the limiting reactant;

controlling the oxygen flow by varying the amount of the catalyst;

directing the oxygen flow through a humidifier;

varying the amount of humidity of the oxygen flow in the humidifier;
varying the amount of temperature of the oxygen flow in the humidifier;
generating an aqueous solution of soda ash in the compartment; and
directing the oxygen flow to a usage device through an output line.

45. (New) A method for generating oxygen, the method comprising:
providing a vessel having a compartment for a chemical reaction;
adding water to the vessel;
adding a limiting reactant of water soluble powder to the vessel, wherein the water soluble powder is selected from the group consisting of sodium percarbonate ($2\text{Na}_2\text{CO}_3 \cdot 3\text{H}_2\text{O}_2$) powder and sodium perborate (NaBHO_3);
adding a catalyst to the vessel, wherein the catalyst is selected from the group consisting of an iron compound, iron oxide, a copper compound, and copper oxide;
adding a heat absorbing compound to the vessel, wherein the heat absorbing compound is a combination of a manganese compound and sodium-based compound;
adding the water soluble powder, the catalyst, the heat absorbing compound to the compartment to produce a chemical reaction to generate an oxygen flow from the compartment;
sealing the compartment to withstand an internal pressure created by the chemical reaction,
controlling the oxygen flow by varying the amount of the limiting reactant;
controlling the oxygen flow by varying the amount of the catalyst;
directing the oxygen flow to a humidifier;
varying the amount of humidity in the oxygen flow in the humidifier;
varying the amount of temperature of the oxygen flow in the humidifier;
generating an aqueous solution of soda ash in the compartment; and
directing the oxygen flow to a usage device through an output line.